

# Operable Unit 1

## ELMENDORF AIR FORCE BASE, ALASKA

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**Active Source Areas:** LF59.

**Closed Source Areas:** LF05, LF07, LF13, OT56.

**Contaminant Sources:** Landfills and waste storage.

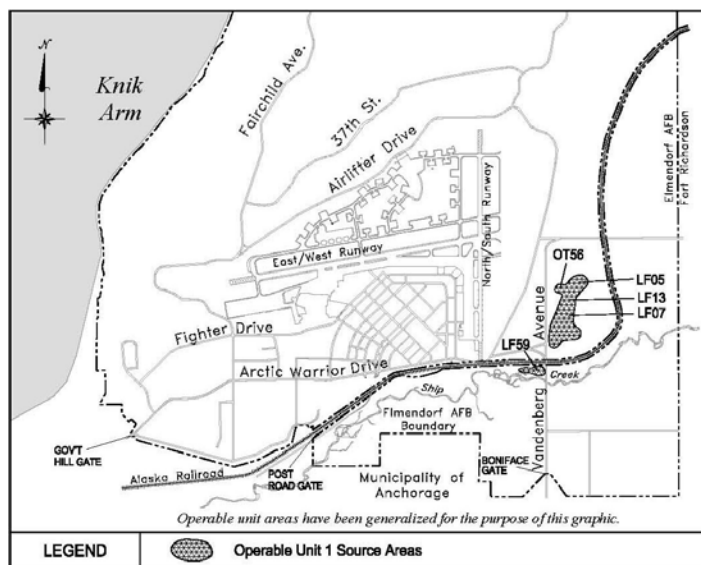
**Media Affected:** Groundwater.

**Contaminants of Concern Outlined in the Operable Unit 1 Record of Decision:** *Operable Unit 1 Groundwater:* 1,2-dibromoethane, manganese, trichloroethene, and vinyl chloride.

**Status:** Long-term monitoring of groundwater and land use controls are ongoing at LF59. Remedial activities are complete at LF05, LF07, LF13, and OT56. These four source areas have met the cleanup goals of the Operable Unit 1 Record of Decision and have been closed (July 2004). LF59 is the remaining active source area at Operable Unit 1. Land use controls restrict use of shallow groundwater.

### Site Description

**Location:** Operable Unit 1 is located on Elmendorf Air



Force Base next to the Vandenberg Highway and north of Ship Creek. Operable Unit 1 consists of five source areas: one waste storage area (OT56) and four landfills (LF05, LF07, LF13, and LF59). The landfills were operated from 1951 to 1983. Information on other Elmendorf Air Force Base operable units can be found on their respective fact sheets.

**Contamination Overview:** The Record of Decision for final remedial action at Operable Unit 1 was signed in September 1994. The selected cleanup remedy included long-term monitoring of groundwater and the implementation of land use controls to restrict the use of shallow groundwater.

### Contaminants of Concern

**Groundwater:** Contaminants of concern at Operable Unit 1 were identified in groundwater in the shallow aquifer. Compounds that exceeded the remedial action goals defined in the Operable Unit 1 Record of Decision and were subsequently defined as contaminants of concern included 1,2-dibromoethane; trichloroethene; vinyl chloride; and manganese. 1,2-Dibromoethane is an additive to leaded gasoline.

#### Key Milestones

ACTIVITY	DATE
Federal Facilities Agreement Signed	November 1991
Management Plan	November 1, 1991
Remedial Investigation/Feasibility Study	January 6, 1994
Record of Decision	September 28, 1994
Remedial Action Plan	May 17, 1995
Remedial Action Start	May 22, 1995
Remedial Action Report	August 13, 1998
First Five-Year Remedy Review	October 20, 1998
Second Five-Year Remedy Review	December 17, 2003
LF05, LF07, LF13, OT56 Site Closures	July 21, 2004

Trichloroethene and vinyl chloride are solvents most likely present due to past disposal activities. Excess manganese levels were likely the result of an oxygen-depleted environment caused by the breakdown of landfill wastes.

Since the Record of Decision was signed in 1994, all the initial contaminants of concern, except trichloroethene at LF59, have naturally attenuated and their concentrations are below established cleanup levels. Additionally, plume boundaries at LF59 are stable. As of 2004, monitoring activities at Operable Unit 1 entail periodically sampling groundwater within LF59 for trichloroethene. Results of these efforts are summarized in Table 1.

***Table 1. Current Contaminants of Concern***

<i>Source Area</i>	<i>Contaminant</i>	<i>Maximum Concentration</i>	<i>Current Concentration</i>	<i>Cleanup Levels</i>
<i>Groundwater (micrograms per liter)</i>				
LF59	Trichloroethene	<b>11</b>	<b>9.5</b>	5

Bold font indicates that the concentration exceeds cleanup levels.

### ***Potential Pathways and Receptors***

Contaminants of concern have been removed from the groundwater in Operable Unit 1 by natural processes during the last decade. Findings indicate that landfill disposal areas are not releasing significant or continuous contaminants to the groundwater.

Human and ecological exposure to elevated levels of

trichloroethene in the shallow groundwater at Operable Unit 1 is possible if contaminants in groundwater or seeps at LF59 reach Ship Creek. However, due to low contaminant levels at this source area, this scenario appears unlikely. Contractors working in this area face a potential exposure, but they will have undergone all of the requisite training to mitigate these risks. As required by the Operable Unit 1 Record of Decision, land use restrictions are in place to prohibit the use of water in this aquifer at LF59.

### ***Summary***

Contamination at Operable Unit 1 consists of trichloroethene in the groundwater. Exposure of ecological receptors to groundwater seeps is possible but unlikely because of the low contaminant concentrations and the isolated location of the seeps. Future direct human exposure to groundwater is possible if the shallow aquifer were to be developed as a water supply. However, land use controls prohibit this.

The final remedy for Operable Unit 1 includes the following: perform a five-year review to assess the protectiveness of the remedial action and perform periodic evaluation of monitoring results to ensure adequate protection of human health and the environment.

The recent five-year review determined that this remedy was protective of both human health and the environment and exposure pathways are being controlled. As such, groundwater monitoring and land use controls will continue until cleanup levels are attained.

### ***Information Repositories***

Documents associated with these project activities are available for public review at:

*Elmendorf Library*  
3<sup>rd</sup> Services Squadron  
10480 22<sup>nd</sup> Street  
Elmendorf AFB, AK 99506  
(907) 552-3787

*Alaska Resources Library & Information Services*  
(ARLIS)  
3211 Providence Drive  
Anchorage, AK 99508  
(907) 272-7547

For additional information, please contact 3<sup>rd</sup> Wing Public Affairs by telephone at (907) 552-8970, or at 10480 22<sup>nd</sup> Street, Suite 118, Elmendorf AFB, AK 99506-2500.